

**REMARKS**

Applicant thanks the Examiner for the telephone conversation with counsel on May 1, 2009. Claims 41, 42, 45-48, and 50-60 remain pending in the application, and independent claim 41 has been amended herein in accordance with the referenced telephone conversation. Support for the amendment may be found in the application at least at page 12, lines 9-18. Pursuant to the Examiner's instructions, a Request for Continued Examination (RCE) is being submitted herewith to obtain entry and consideration of the claim amendment.

Favorable reconsideration of the application is respectfully requested in view of the claim amendment and following remarks.

***I. Allowable Subject Matter***

Applicant again acknowledges the Examiner's conclusion that claim 45 recites allowable subject matter and would be allowed if rewritten in independent form including the limitations of the base claim and any intervening claims. Applicant again also acknowledges the Examiner's conclusion that claim 60 is allowed. For the following reasons, Applicant submits that all claims are patentable and therefore should be allowed.

***II. Claim Rejections – 35 U.S.C. § 103(a)***

As indicated in the Advisory Action, claims 41, 42, 46-48, and 50-59 remain rejected pursuant to 35 U.S.C. § 103(a) as being obvious over Truchan et al., U.S. Patent No. 6,455,166 (Truchan) in view of Feldman, *Applied Physics Letters*, Vol. 77, No. 18 (October 2000), pages 2906-08 (Feldman), the combination by itself or further in view of additional tertiary references.

In the Advisory Action, the Examiner suggested that counsel call the Examiner to discuss issues of patentability, and the parties spoke on May 1, 2009. In response to a previous Office Action, independent claim 41 was amended to recite in part the step of "producing on said surface of said metallic substrate or on top of said buffer layer grooves in a direction of current flow." During the telephone conversation, the

Examiner indicated his view that the "producing" step of claim 41 is too broad in that the references essentially disclose the production of grains (and therefore grooves) oriented in the direction of current flow. The Examiner suggested that claim 41 be amended to recite the "producing" step in a more specific or "positive" manner, rather than as merely producing the grooves.

In response to the Final Office Action, Applicants argued that in the claimed method, the grooves are formed intentionally as part of a distinct treating step. The Application states in one embodiment, "the tape is **treated** by a polishing step". Furthermore, the treatment of the tape forms "grooves [that] are oriented along the direction of the current flow, that is the direction of the tape." (Application at page 12, lines 9-18.) During the telephone conversation (and in the Advisory Action), the Examiner pointed out that an affirmative treating step was not actually recited in the claims. He indicated that reciting a **treating** of the surface of the metallic substrate or top of the buffer layer **to form** the grooves would provide a more specific and positive recitation, as compared to a passive recitation that the grooves merely "are produced".

In accordance with the Advisory Action and the conversation with the Examiner, Applicant has amended claim 41 to recite in part the step of "~~producing on~~ treating said surface of said metallic substrate or on top of said buffer layer to form grooves in a direction of current flow." The Examiner had relied principally on Feldman as disclosing the formation of longitudinal grains in the direction of current flow, and he concluded the previously claimed step of "producing" grooves along the edges of the grains would have been obvious from the grain structure. In view of the current claim amendments, however, the references do not disclose or suggest specifically treating the surface of the substrate or buffer layer to form the grooves in a direction of current flow.

As stated in response to the Final Office Action, Feldman relates to measuring barriers to current flow through a superconductor that may occur at the grain boundaries. Specifically, Feldman concludes that the barrier effects become negligible when the misorientation of the grain boundaries is less than four degrees relative to the longitudinal direction. The barrier effects become more pronounced at misorientation

angles greater than four degrees. (See, e.g., Feldman at page 2907 and Fig. 3.) Beyond identifying a pertinent threshold misorientation angle of the grain boundaries, Feldman says nothing about addressing the issue. In particular, Feldman does not disclose or suggest ***treating the surface of the substrate or buffer layer*** to form grooves in the direction of current flow, as is now claimed.

Accordingly, Feldman does not disclose or suggest the step of “treating said surface of said metallic substrate or top of said buffer layer to form grooves in a direction of current flow”, as recited in amended independent claim 41. A review of the other references cited by the Examiner indicates they also do not disclose such step of treating the surface of the substrate or buffer layer to form the claimed grooves, and the Examiner did not indicate otherwise during the telephone conversation. Claim 41, therefore, is allowable, and the claims that depend from claim 41 are allowable for at least the same reasons.

### ***III. Conclusion***

Accordingly, claims 41, 42, 45-48, and 50-60 are believed to be allowable, and the application is believed to be in condition for allowance. A prompt action to such end is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988, reference number ABAGP0110US.

Application No.: 10/501,747

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

/Mark D. Saralino/

Mark D. Saralino

Reg. No. 34,243

DATE: May 5, 2009

The Keith Building  
1621 Euclid Avenue  
Nineteenth Floor  
Cleveland, Ohio 44115  
(216) 621-1113